

**Amendments to the Specification:**

*Please replace the Abstract with the following rewritten abstract:*

An optical spectrometer for combustion flame temperature determination includes at least two photodetectors positioned for receiving light from a combustion flame, each of the at least two photodetectors having a different, ~~overlap-ping~~ overlapping bandwidth for detecting a respective output signal in an ultraviolet emission band; and a computer for subtracting a respective output signal of a first one of the at least two photodetectors from a respective output signal of a second one of the at least two photodetectors to obtain a segment signal, and using the segment signal to determine the combustion flame temperature.